REMARKS

Claims 1-20 are pending in this application. Claims 10-12 are merely objected to and have been indicated as otherwise allowable over the prior art of record. Claims 1-9 and 13-20 stand rejected, and are at issue herein. Claims 1, 4, 10, 16, 17, 19, and 20 are amended as indicated hereinabove. No new matter has been added by such amendments. Reconsideration of claims 1-9 and 13-20 and indication of the allowability of claims 1-20 at an early date in view of the foregoing amendments and following remarks are respectfully solicited.

The Examiner has rejected claims 1-9 and 13-20 under 35 U.S.C. 103(a) as being unpatentable over Cochran et al. in view of Dick et al. and Kim et al. The applicants have thoroughly considered each of these references individually and in combination as proposed by the Examiner, but must nonetheless respectfully traverse this ground of rejection. Reconsideration of claims 1-9 and 13-20 in view of the foregoing amendments and following remarks and indication of their allowability at an early date are respectfully solicited.

As described in the originally filed specification, home and commercial HVAC systems include various components, e.g., furnace, boiler, air conditioning unit, heat pump, filters, etc. that require periodic service, or a problem may manifest itself in malfunction of the HVAC system. At such a point, the consumer needs to determine who to call to have the system serviced. Unfortunately, the phone book typically contains several listings for HVAC companies, which leads to confusion over who to call. Original Specification, ¶[0006]. Often, the HVAC company that installed or provided the last service on these components often provides a sticker or magnet affixed to the furnace, air conditioner, heat pump, etc., which includes the contact information for the service company.

The problem with this system, however, is that stickers or magnets placed on the actual components of the HVAC system are often difficult to find based in part on the location of these components in poorly lit basements of dwellings. Other such components are outside of the dwelling, which exposes the stickers to fading effects of the sun as well as weathering effects of rain, snow, etc. As a result, such contact information being provided on the individual components of the HVAC system are often ineffective because the consumer cannot find them, because the information on the sticker has faded over time, etc. Id. at ¶[0007].

The originally filed specification also describes that the service contact information may also be placed under the thermostat cover. However, "the consumer may not realize that the service contact information is on the underside of the cover, and therefore may not even look in this location in an attempt to determine who to call for service." Id. at ¶[0008]. As such, providing such service contact information under the cover of a thermostat is also ineffective to communicate to the consumer the appropriate service contact information.

With this background in mind, the thermostat for use with an HVAC system having at least one remotely located HVAC component provides a user display screen on which a service reminder screen for the remotely located HVAC component may be displayed. As claimed in independent claim 1, this service reminder screen includes at least one field for displaying a name of a service organization and a contact telephone number. Similarly, the service reminder screen claimed in independent claim 16 includes a first field containing information identifying a name of a service organization and a second field containing information identifying a contact telephone number associated with this service organization identified in the first field. Finally, independent claim 20 requires that the service reminder screen include at least one field for containing contact information including a name of a service organization. In each case, this service reminder screen overcomes the problems associated with the prior art of providing service contact information on the remotely located HVAC components themselves, and the problem of displaying the service contact information under the cover of the thermostat itself.

Turning to the Cochran et al. '209 patent, it is noted that the programmable thermostat described therein includes a portion of a display (or a first display) that is continuously visible to the occupants of the dwelling, and a second portion of the display (or a second display) that is not normally visible to the occupant as it is covered by the front cover of the thermostat. As described in Cochran et al. '209, the display that is always visible only displays the current time as well as the current temperature. The second display, which is typically obscured by the front cover of the thermostat, displays "program information" including the day, period, start time, and temperature setting of the thermostat. This second display is also the display that is in proximity with the user function selection means as identified by the Examiner. As such, and by the terms of independent claim 1 that require that the function selection means be used for inputting a user selection associated with a function "indicated on the user display screen", the user display screen of independent claim

1 can only refer to the second display of Cochran et al. '209. However, as described in the originally filed specification, providing any type of service contact information that is normally obscured by the front cover of the thermostat would be wholly ineffective to communicate this information to the user. See Original Specification ¶[0008].

The Examiner correctly recognizes that Cochran et al. '209 does not teach or even suggest any functionality other than the typical thermostat programming to control heating and cooling during different periods of the days of the week. Specifically, Cochran et al. '209 does not provide any teaching or suggestion of the inclusion or usage of service interval reminders for any of the remotely located HVAC components that this thermostat controls. To provide this teaching, the Examiner cites to Dick et al. '973. This reference describes a window air conditioning unit having a built in thermostat that is integral with the window air conditioning unit. The integrated thermostat of the window air conditioning unit of Dick et al. '973 does provide a filter usage function for logging and displaying the total usage of the window air conditioner filter. This integrated thermostat within the window air conditioner unit includes an automatic reminder after the filter has been in use for some predetermined period to serve as an indication to clean or replace the air conditioning filter. The Examiner has indicated that it would have been obvious to combine the teachings of Dick et al. '973 with those of Cochran et al. '209 "for the simple purpose of insuring proper maintenance of the air conditioning system." While the applicants agree that the filter indication on the window air conditioning unit of Dick et al. '973 is for the purpose of insuring proper maintenance of the air conditioning system, the applicants are unclear how this stated purpose supports the combination of these references.

Specifically, the integral thermostat in the window air conditioning unit of Dick et al. '973 already provides the filter change indication for the window air conditioner unit which will insure its proper maintenance. Since an HVAC thermostat does not control window air conditioning units in a dwelling or commercial establishment, the provision of a filter change interval reminder on the HVAC thermostat would, at best, lead to confusion. That is, since a user does not access the HVAC thermostat for any control functionality associated with a window air conditioner unit, the user would not expect to see any service interval reminders for such a unit at that location. Additionally, since the HVAC thermostat does not control the air conditioning unit, it has no idea how long that window air conditioning unit has been in service, and therefore cannot provide reliable information regarding the proper cleaning or maintenance of the filter of the window air conditioning unit.

Further, as discussed above and in the originally filed specification, the problem with providing a service interval reminder on a component of the HVAC system itself is that such components are typically located outside of the dwelling, the basement of the dwelling, or other infrequently accessed areas. This presents a problem unique to an HVAC system in that the user may not be apprised of the service interval provided on that appliance or component because the user typically does not access or have visual contact with those components. This problem does not exist with a window air conditioning unit that is typically installed in a window within the room where the user will be located. In order to control that window air conditioning unit the user must actually physically interface with that unit, at which point any service interval reminders will be clearly visible to the user. This is not the case with remotely controlled HVAC components. As such, the teachings of Dick et al. '973 are not particularly germane to the issues addressed by the HVAC thermostat of the present invention that controls remotely located HVAC components.

Additionally, the teachings of Dick et al. '973 merely provide, as recognized by the Examiner, the service interval reminder to change the filter. If the user is unable to unwilling to change the filter, the user is still forced to go to the phone book to try and find the name and number of a service company who might be able to provide such service for the window air conditioner. As discussed above and in the originally filed specification, this results in confusion as the typical phone book includes many different HVAC companies.

To overcome the deficiencies of the combination of these two references, the Examiner turns to a third reference, Published Application '135 to Kim et al. Specifically, the Examiner relies upon [0054] of Kim application '135 wherein it is described that if a connection to the internet is not capable, a contact number (telephone number) of this service center is displayed on the appliance itself. Once again, this contact number is displayed on the appliance itself which, as discussed above and in the originally filed specification, presents a problem when applied to HVAC systems. Specifically, displaying a contact number on individual components of the HVAC system is ineffective because such displays are not typically viewed by the user due to the location of these components. Further, requiring each of these components to include its own display greatly increases the cost of such components for the very small benefit of providing this contact number in the event of a failure of the component. Currently, such components do not include their own displays. However, to accomplish the purpose of providing the contact number on the appliance itself,

many service companies provide a sticker or a magnet affixed to the individual appliance to provide the contact number. As described in the originally filed specification, however, this mechanism is wholly ineffective based, primarily, on the location of the HVAC system components.

The refrigerator of the Kim '135 application is not remotely controlled by a thermostat or any other unit. Therefore, there is no suggestion or teaching in this application that such contact information should be displayed anywhere other than on the appliance itself. However, as discussed above and in the originally filed specification, such indication on the appliance itself is wholly ineffective for components of an HVAC system based, primarily, on their physical location within and outside of the dwelling. Additionally, since the refrigerator is not controlled by or communicates with the HVAC thermostat, or any other outside component, there is no teaching or suggestion in the Kim '135 application to suggest communicating this information for display at any remote location. As such, the applicant respectfully submits that there is no teaching or suggestion for an attempted combination of the teachings of this published application with either of the two previously cited patents. Further, the applicants respectfully submit that there is little likelihood of success that any such combination would overcome the problems described in the background of the originally filed specification, to wit the inability of the user to identify the contact information when it is provided on the HVAC system component itself.

In addition to the above, the applicants further respectfully submit that the combination of these three references fails to teach each and every limitation of the claims of the present application. Specifically, none of the references taken alone or in combination teach a service reminder screen that includes a field for displaying the name of a service organization. However, independent claim 1 specifically requires that this service reminder screen include at least one field for displaying a name of a service organization and a contact telephone number, independent claim 16 requires that the service reminder screen include a first field containing information identifying a name of a service organization, and independent claim 20 requires that the service reminder screen include at least one field for containing contact information including a name of a service organization.

The Examiner's contention that such information is never functionally applied within the claims and is, in effect, non functional descriptive matter and, as such, does not receive patentable weight, is not germane to the claims as currently amended. Specifically, the

claims each require that a field be provided on the service reminder screen for the name of a service organization. This requirement is not simply mere written matter, but is a structural requirement of the service reminder screen itself. Without the provision of such a field to contain the name of the service organization, the combination of references set forth by the Examiner fails to teach each and every limitation of these claims. As such, a *prima facie* case of obviousness has not been made with regard to these claims. Reconsideration of these claims, as well as the claims dependent thereon, at an early date are respectfully solicited.

Additionally, dependent claim 4 requires that the period of the reminder interval be individually user settable for each of the at least one remotely located HVAC component of the HVAC system. There is no teaching or suggestion in any of the references cited by the Examiner that would allow more than one service interval to be programmed. Specifically, the thermostat of Cochran et al. '209 does not include any teaching or suggestion of any service intervals whatsoever. Dick et al. '973 only teaches the setting of a single filter reminder since the programmable thermostat is integral with the window air conditioning unit. Likewise, the refrigerator of Kim et al. does not provide any teaching or suggestion of the setting of any service interval reminder, and also is directed only to a single refrigerator. Therefore, none of the references taken alone or in combination teach the requirement of dependent claim 4.

With regard to dependent claim 5, which requires that the name of the service organization and the contact telephone number be programmable by a service person during servicing and installation of the thermostat, the Examiner merely states that since service persons typically set up all of the basic information during system installation, it would be obvious for them to enter the contact information at that point. However, the Examiner cites no authority for this contention. Indeed, none of the references cited by the Examiner provide any such suggestion whatsoever. To the contrary, it is just as likely that the refrigerator of Kim et al. '135 includes the email and telephone number of the service center in its database that may be factory preset. However, this to is mere speculation as the applicants were unable to find any description in Kim et al. '135 describing who or when such contact information is programmed into the refrigerator described therein. As such, it appears that the applicants own specification is the only source for such a description. The usage of such a description to reject the claims of the applicants' application is specifically precluded as hindsight reconstruction.

Additionally, claim 7 requires that the user function selection means comprises a pair of soft keys located in proximity to the user display screen. Once again, the Examiner fails to cite any authority for the teaching of such soft keys. Instead, the Examiner cites official notice that soft keys are well known features of thermostats that would have been obvious to apply to the thermostat of Cochran et al. for the simple purpose of providing convenient data entry. The applicants, under MPEP §2144.03, traverse this contention and request that the Examiner provide a reference to support such a position. Specifically, the applicants respectfully submit that the usage of soft keys for inputting a user selection associated with the function indicated on the user display screen of a thermostat for an HVAC system is not commonly used. Instead, as illustrated in the thermostat of Cochran et al. '209, dedicated function keys are used to provide the programming inputs on thermostats.

Dependent claim 14 requires that a delay function be provided on the user display when the service reminder message is displayed such that the service reminder message is delayed for predetermined period upon user selection of the delay function via the user function selection means. The Examiner cites to Dick et al. '973, column 8, line 8, for such a teaching. However, an examination of this cited section reveals that the delay has nothing to do with the filter usage indication, but instead is included "to prevent damage to the air conditioner compressor caused by rapid cycling by providing a predetermined delay, four minutes for example, before it will restart." Such a delay function has nothing to do with the display of the filter usage message. Instead, the delay function provided by Dick et al. simply prevents the compressor from being cycled to quickly to preclude damage thereto. As such, the applicants respectfully submit that none of the references taken alone or in combination satisfy all of the requirements of this claim 14.

In view of the above, the applicants respectfully submit that claims 1-9 and 13-20 are in condition for allowance. Reconsideration of claims 1-9 and 13-20 and indication of their allowability at an early date are respectfully solicited.

The Examiner has objected to claims 10-12 as being dependent upon a rejected base claim, but has indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The applicants wish to thank the Examiner for the thorough consideration of these claims, and have adopted the Examiner's suggestion by amending claim 10 to independent form including all of the limitations of its base claim and any intervening claims. Claims 11 and 12 are dependent

from newly independent claim 10. The applicants respectfully note that this amendment is being made for the purposes of expediency only, and not for any purpose related to patentability. As such, the applicants respectfully submit that these claims are entitled to their full scope and equivalents as if they had been filed in this form in the original application.

In view of the above, the applicants respectfully submit that claims 1-20 are in condition for allowance. Reconsideration of claims 1-9 and 13-20 and indication of the allowability of claims 1-20 at an early date are respectfully solicited.

If the Examiner believes that a telephonic conversation will aid in the resolution of any issues not resolved herein, the Examiner is invited to contact the applicants' attorney at the telephone number listed below.

Respectfully submitted,

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